

REMARKS

Claims 1-18 are pending in the application and claims 1 and 8 are presently amended.

The Examiner's entry of the Request for Continued Examination and withdrawal of the finality of the previous Office Action is acknowledged.

35 U.S.C. § 112

Claims 1-18 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Applicants respectfully transverse this rejection, and respectfully request reconsideration in view of the following comments.

Under § 112, second paragraph, the following standards apply: the invention set forth in the claims must be presumed, in absence of evidence to the contrary, to be that which applicants regard as their invention; [MPEP 8th Ed. rev.1 § 2172]; Applicants may define their claimed invention in whatever terms they choose, so long as the terms are not used in ways contrary to accepted meanings in the art; [MPEP 8th Ed. rev.1 §2173.01]; and definiteness under §112¶2 requires meeting threshold requirements of clarity and precision, not whether more suitable language or modes of expression are available.

Specifically, claim 1 and claim 5 are rejected for the use of the word "domestic". The term "domestic" modifies liquid detergent and refers to any liquid detergent that is generally available and suitable for household purposes. The use of the word "domestic" in this sense is consistent with its ordinary meaning and should provide sufficient guidance for one of skill in the art to determine a suitable liquid detergent for use in the claimed invention. Withdrawal of the rejection is respectfully requested.

Claim 1 is also rejected for use of the term "finally" for being confusing. Any potential confusion regarding the sequential treatment in claim 1 can be eliminated without altering the scope of the claim by the following grammatical corrections. The term "finally" is unnecessary due to the language "sequential treatment" and therefore is deleted to reduce any potential confusion. Also "and" is added and "supplemented" is deleted to improve the parallel structure in the sentence of claim 1. Withdrawal of the rejection is respectfully requested.

Claim 1, step d) and claim 8 are rejected for the recitation "each embedded block" which has no antecedent basis. "Each embedded block" referred to the slices of callus which is now

made explicit by amending claim 1, step d) and claim 8 by substituting the term "blocks" for "thin slices". The amendment is supported in the specification at page 9, lines 6-16, page 11, lines 25-29, and on page 15 beginning at line 21. Withdrawal of the rejection is respectfully requested.

Claim 1, step d), claim 13 and claim 15 are rejected by the Examiner for the use of the term "somatic embryogenesis", which the Examiner indicates is unclear because algae do not produce embryos, which is a structure found in higher plants. Most of the terminology used to date for seaweed biotechnology is applied or adapted from that of higher plants. The term "somatic embryogenesis" is a term selected by the inventors to describe observed similarities in the initial stages of development in morphology of the somatic embryos described in the present invention as compared with those structures in higher plants. Although seaweeds do not undergo the exact tissue differentiation of higher plants, the art and the world-wide phycological community uses these terminologies to describe tissue culture in callus for seaweeds. Use of "somatic embryogenesis" is supported in the specification at page 12, lines 23-27 and in Example 4 on page 16. In light of the inventor's right to be their own lexicographers and that the use is not contrary to the art, reconsideration and withdrawal of the rejection is respectfully requested.

Claim 1, step d) is rejected by the Examiner as being unclear for the use of the term "filamentous callus", since callus is of unorganized cells. The term "filamentous callus" was used descriptively by the inventors because at the initial stages of development, the tissue looked like uniseriate filamentous outgrowth from the excised surface. See page 15, line 11 and figure 1. The continuous growth of such filaments over a period of time did lead to the formation of a mass of unorganized cell growth consistent with the term "callus". The use of the term "filamentous callus" by the inventors is not contrary to the art, therefore reconsideration and withdrawal of the rejection is respectfully requested.

In regards to claim 8, the Examiner believes "the calli" is unclear as to which type of callus is intended. Claim 8 has been amended by adding "of step 1(d)" following the term "the calli" thereby clarifying the reference without changing the scope of the claim. Withdrawal of the rejection is respectfully requested.

The Examiner has rejected claim 15 for the use of the term "enhanced" as being indefinite. The phrase "further enhancement of formation of somatic embryos" found in claim 15 is supported, for example, in Example 4 titled "Enhancement of somatic embryogenesis by plant growth regulators" found on page 16, lines 5-18 of the specification. Lines 14-17 specify:

The callus blocks implanted in agar medium grew rapidly in one month and formed dense pigmented micro-colonies similar to somatic embryos in an agar medium. Transfer of such pigmented callus mass from solid (agar plates) medium to liquid PES medium facilitated rapid growth and morphogenesis in micro-propagules.

Enhancement of formation of somatic embryos includes: formation of dense pigmented micro-colonies, rapid morphogenesis in micro-propagules, and rapid growth; leading to abundant formation of somatic embryos. Applicants assert use of the term "enhancement" meets threshold requirements for clarity and precision in light of the content of the specification. MPEP 8th Ed., rev.1 § 2173.02. Reconsideration and withdrawal of the rejection is respectfully requested.

Claims 16 and 17 are rejected by the Examiner on the basis that something different from the parent plant is obtained, purportedly in conflict with the preamble of claim 1 indicating "clonal propagating". The claims of the present invention are directed to an *in vitro* clonal propagating method for cultivation of marine algae, one result of which is fast growth. The marine algae grown by the inventive method are the same genetically as the parent, consistent with principles of clonal propagating. For support see the specification at: page 18, line 10, page 12, line 29 - page 13, line 6; and page 10, lines 3-6. Control parent plant is used consistently in the application to identify control plants, as well as, the source of algal material used in the present invention. The use of the words "clonal propagating" is not contrary to the use in the art and is supported by the specification. Therefore, reconsideration and withdrawal of the rejection is respectfully requested.

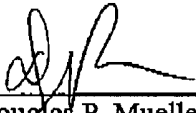
Conclusion

Applicants respectfully request reconsideration of the claims in light of the clarification provided above. Applicants acknowledge Examiner's indication that all claims are free of the prior art and respectfully request the case be moved to allowance. The Examiner is invited to call Anne Murphy at 612.371.5267, if any claim rejections remain after entry of the above amendment.

Respectfully submitted,

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Date

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